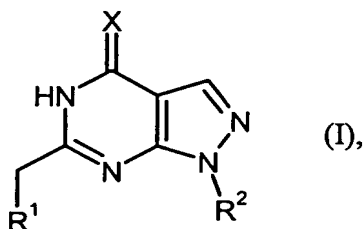


Claims

1. A compound of the formula



5

in which

10  $R^1$  is phenyl which is substituted by 1 to 5 substituents independently of one another selected from the group of halogen,  $C_1$ - $C_6$ -alkyl, trifluoromethyl, trifluoromethoxy, cyano, hydroxy, nitro and  $C_1$ - $C_6$ -alkoxy,

$R^2$  is pentan-3-yl,  $C_4$ - $C_6$ -cycloalkyl,

X is oxygen or sulfur,

15 and the salts, solvates and/or solvates of the salts thereof.

2. A compound as claimed in claim 1, where

20  $R^1$  is phenyl which is substituted by 1 to 3 substituents independently of one another selected from the group of fluorine, chlorine, bromine,  $C_1$ - $C_4$ -alkyl, trifluoromethyl, trifluoromethoxy, cyano, hydroxy, nitro and  $C_1$ - $C_4$ -alkoxy,

$R^2$  is pentan-3-yl,  $C_5$ - $C_6$ -cycloalkyl,

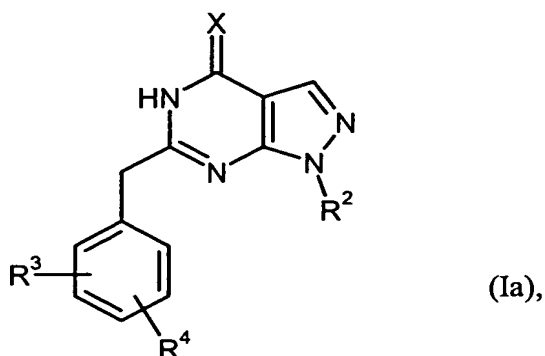
25

X is oxygen or sulfur,

and the salts, solvates and/or solvates of the salts thereof.

3. A compound as claimed in claims 1 and 2 of the formula

5



in which

R<sup>3</sup> is hydrogen or chlorine,

10

R<sup>4</sup> is fluorine, chlorine, bromine, methyl, trifluoromethyl,

R<sup>2</sup> is pentan-3-yl, cyclopentyl,

15

X is oxygen or sulfur,

and the salts, solvates and/or solvates of the salts thereof.

4. A compound as claimed in claims 1 to 3 of the formula (Ia), where

20

R<sup>3</sup> is hydrogen or chlorine,

R<sup>4</sup> is fluorine, chlorine, bromine, methyl, trifluoromethyl,

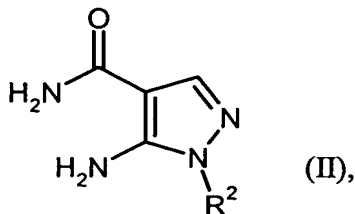
$R^2$  is pentan-3-yl, cyclopentyl,

X is oxygen,

5 and the salts, solvates and/or solvates of the salts thereof.

5. A process for preparing compounds as claimed in claim 1, characterized in that

[A] compounds of the formula



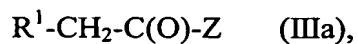
10

in which

$R^2$  has the meanings indicated in claim 1,

15

are converted by reaction with a compound of the formula



20

in which

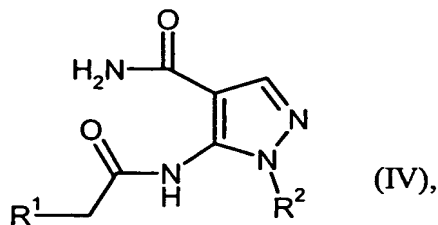
$R^1$  has the meanings indicated in claim 1,

and

25

Z is chlorine or bromine,

initially in the presence of a base into compounds of the formula



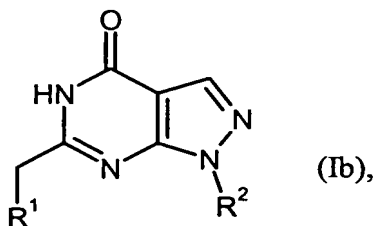
5

in which

$R^1$  and  $R^2$  have the meanings indicated in claim 1,

10

then cyclized in the presence of a base to compounds of the formula



in which

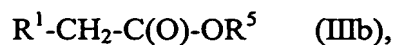
15

$R^1$  and  $R^2$  have the meanings indicated in claim 1,

or

20

[B] compounds of the formula (II) are reacted with direct cyclization to (Ib) with a compound of the formula



in which

$R^1$  has the meanings indicated in claim 1,

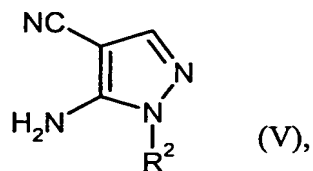
and

$R^5$  is methyl or ethyl,

in the presence of a base,

or

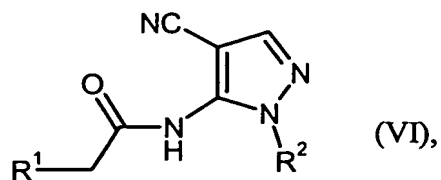
[C] compounds of the formula



in which

$R^2$  has the meanings indicated in claim 1,

are converted initially by reaction with a compound of the formula (IIIa) in the presence of a base into compounds of the formula

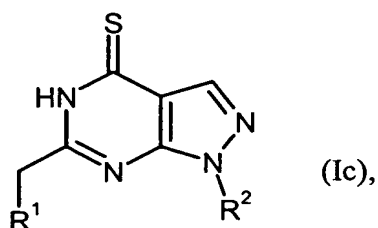


in which

$R^1$  and  $R^2$  have the meanings indicated in claim 1,

5 and the latter are cyclized in a second step in the presence of a base and of an oxidizing agent to (Ib),

and the compounds of the formula (Ib) are then converted where appropriate by reaction with a sulfurizing agent such as, for example, diphosphorus  
10 pentasulfide into the thiono derivatives of the formula



in which

15  $R^1$  and  $R^2$  have the meanings indicated in claim 1,

and the resulting compounds of the formula (I) are reacted where appropriate with the appropriate (i) solvents and/or (ii) bases or acids to give the solvates,  
20 salts and/or solvates of the salts thereof.

6. A compound as claimed in any of claims 1 to 4 for the treatment and/or  
25 prophylaxis of diseases.

7. A medicament comprising at least one of the compounds as claimed in any of claims 1 to 4 and at least one pharmaceutically acceptable, essentially non-toxic carrier or excipient.
- 5 8. The use of the compounds as claimed in any of claims 1 to 4 for producing a medicament for the prophylaxis and/or treatment of impairments of perception, concentration, learning and/or memory.
9. The use as claimed in claim 8, where the impairment is a consequence of  
10 Alzheimer's disease.
10. The use of the compounds as claimed in any of claims 1 to 4 for producing a medicament for improving perception, concentration, learning and/or memory.  
15
11. A method for controlling impairments of perception, concentration, learning and/or memory in humans or animals by administering an effective amount of the compounds from claims 1 to 4.
- 20 12. The method as claimed in claim 11, where the impairment is a consequence of Alzheimer's disease.